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# The *Brown* Decision Revisited: Mathematizing Social Problems

WILLIAM F. TATE, GLORIA LADSON-BILLINGS,  
and CARL A. GRANT

*Almost 40 years after the landmark Brown vs. Board of Education decision, African-Americans are still attempting to understand its meaning and significance in their daily lives. Unaware of the potential for divergent constructions of equality, citizens who were barred from equal access to schooling continue to struggle with poor-quality schooling. This article argues that a restrictive form of equality, rather than an expansive one, limits the ability of African-Americans to benefit equally from schooling in the nation's public schools. The article also suggests that the Brown decision represents the Supreme Court's attempt to apply a largely mathematical solution to a social problem. The failure of the court to provide a verbal interpretation of the mathematical model it constructed left individual school districts free to develop educational responses that failed to address the needs of African-American students. The article concludes with an expansive vision of a desegregated/integrated school that reconsiders student diversity, curriculum, instruction, and parent-community involvement.*

White Americans today don't know what in the world to do because they put us behind them, that's where they made their mistake. If they had put us in front, they wouldn't have let us look back. But they put us behind them, and we watched every move they made.

—Fannie Lou Hamer  
1991 speech to NAACP Legal Defense Fund. Institute

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They had for more than a century before been regarded as . . . so far inferior . . . that the negro might justly and lawfully be reduced to slavery for his benefit. . . . This opinion was at that time fixed and universal in the civilized portion of the white race. It was regarded as an axiom of morals as well as in politics, which no one thought of disputing . . . and men in every grade and position in society daily and habitually acted upon it . . . without doubting for a moment the correctness of this opinion.

*Dred Scott v. Stanford, 1857*

The sentiments expressed in the above quotation from the *Dred Scott v. Sandford* decision of 1857 reflect the prevailing cultural ethos of America at the time the Supreme Court Justices were called on to render a decision in the 1896 case of *Plessy v. Ferguson*. In their decision to uphold Louisiana's separate railroad cars, the court was rendering a decision that was consistent with the social and cultural mores of the nation. These beliefs had been firmly established from the creation of the republic. They are reflected not just in the three-fifths compromise, but in the very beliefs expressed by founders such as Thomas Jefferson. In Jefferson's (1784/1954) *Notes on the State of Virginia*, he suggested that:

deep rooted prejudices entertained by the whites; ten thousand recollections, by the blacks, of the injuries they have sustained; new provocations; the real distinction that nature has made; and many other circumstances, will divide us into parties, and produce convulsions which will probably never end but in the extermination of the one or the other race. (p. 138)

As he further explained the "real distinction that nature has made," Jefferson made it clear that he believed the African-American to be an inferior being. He suggested that Whites, by virtue of their fairer skin, flowing hair, "a more elegant symmetry of form," were more beautiful. Jefferson also commented that African-Americans "secrete less by the kidneys [*sic*], and more by the glands of the skin, which gives them a very strong and disagreeable odour" (p. 139). He felt that African-Americans required less sleep, as evidenced by his observation that they had the ability to work all day and engage in merrymaking through the night. Jefferson regarded African-Americans as lusty and less capable of deep emotional feelings. The African-American described by Jefferson was less capable of reason and imagination.

Peters (1982) suggests that Jefferson's beliefs about the African's blackness "took on moral overtones. Humanity to [Jefferson] was White, and this whiteness carried a sanctity about it which meant that any deviation from whiteness was neither true nor right, an aberration from the true likeness of

humanity" (p. 24). Peters further posits that the Jeffersonian view of African-Americans helped lay the foundation for segregation. Because of these perceived differences and inferior qualities, Jefferson (1784/1954) argued that the African, when emancipated, must be "removed beyond the reach of mixture" (p. 143), i.e., segregated from Whites. At the time of this writing, Jefferson's sentiments were not seen as scandalous or absurd. They accurately reflected the common thinking of the time. With this thinking as a backdrop, the opinion handed down in *Plessy v. Ferguson* made perfect sense to the general public. The belief in the inherent inferiority of African-Americans made it impossible for White Americans to see themselves sharing public spaces with them as equals.

In addition to reflecting the prevailing cultural ethos, the laws that laid the groundwork for the relationship between citizen (i.e., White male property owner) and noncitizen (i.e., Black) in the United States were based on a mathematical notion of equality<sup>1</sup> that we will explore in greater detail in a subsequent section of this article. Simply put, the objectification of Africans, and later African-Americans, made it possible to think of them purely in mathematical terms and almost never in human/social terms. The slave trade provides a graphic illustration of this objectification:

The price of slaves in the domestic trade reflected all the forces operating to create supply and demand. In the early nineteenth century, the prices of prime field hands were modest, ranging from \$350 in Virginia to about \$500 in Louisiana. Later, as the demand increased in the lower South, the prices on both the Northern and Southern markets tended to rise. . . . In order to convince themselves and the abolitionists that slavery was a moral and economic good and to convince their neighbors of their affluence, planters continued to purchase all the slaves offered on the market. Prices sky-rocketed, and by 1860 prime field hands were selling for \$1,000 in Virginia and for \$1,500 in New Orleans. (Franklin & Moss, 1988, p. 108)

This objectification and reduction to a mathematical quantity was codified in the three-fifths compromise that was inserted into Article I, Section 2 of the Constitution and reads as follows:

Representatives and direct Taxes shall be apportioned among the several States which may be included within this Union, according to their respective Numbers, which shall be determined by adding to the whole Number of free Persons, including those bound to Service for a Term of Years, and excluding Indians not taxed, three fifths of all other persons.

Both the economy (e.g., the slave trade) and the constitutional philosophy of the United States reinforced the notion that African-Americans were

devoid of humanity and could be considered in strictly mathematical terms. Unfortunately, these mathematical conceptions continued into 20th-century thinking and provided a backdrop for the historic *Brown* (1954) decision.

#### UNDERSTANDING *PLESSY* AND *BROWN*

*Plessy v. Ferguson* was handed down in an era that had seen racial and voter violence in Louisiana, the Coushatta Massacre of more than 60 African-Americans, also in Louisiana, the refusal of the U.S. attorney general to send troops to Mississippi to protect African-American voters, the enactment of the first Jim Crow law, segregated railroad cars in Tennessee, and the repeal of the Civil Rights Act of 1875 that had given African-Americans equal access to public accommodations and public amusement (Carson, Garrow, Harding, & Hine, 1987). *Plessy v. Ferguson* represented a "good cultural fit" between what was happening in the nation, the ways in which many White people thought and felt about African-Americans, and the current state and local laws and ordinances. It was not seen as a particularly significant piece of legislation among Whites because it merely reinforced the prevailing sentiment.

On the other hand, although *Brown v. Board of Education* was handed down after a number of other rulings that chipped away at the foundation of segregation (e.g., *Henderson v. United States*, 1950; *McLaurin v. Oklahoma State Regents*, 1950; *Sipuel v. Board of Regents of the University of Oklahoma*, 1948; *Sweatt v. Painter*, 1950), the cultural ethos and sociopolitical climate had not changed radically from the time of *Plessy v. Ferguson*. In 1948 in Clarendon County, South Carolina, the county was paying the cost of busing White children to school but refused to do the same for African-American children (Carson et al., 1987). In 1951 in Cicero, Illinois, Governor Adlai Stevenson had to call out the National Guard to quell rioting there when 3,500 Whites tried to prevent an African-American family from moving into an all-White city. And, just one year after *Brown* was handed down, the African-American community was shaken by the kidnapping and brutal lynching of Emmett Till, a teenager accused of whistling at a White woman. Despite the eyewitness testimony of Till's uncle, the accused were found not guilty.

*Brown* was perceived as a threat because of its widespread social and cultural implications. Throughout the nation and in the South in particular, the *Brown* decision was seen as the Supreme Court's attempt to not only interpret the law but to shape the sociocultural conscience of the nation. The Supreme Court seemed to see *Brown* as an opportunity to institutionalize the cultural assimilation function of the public schools. In a section of the decision the justices wrote:

Today, it [education] is a principal instrument in awaking the child to cultural values, in preparing him for later professional training, and in helping him to adjust normally to his environment. In these days, it is doubtful that any child may reasonably be expected to succeed in life if he is denied the opportunity of an education. Such an opportunity, where the state has undertaken to provide it, is a right which must be made available to all on equal terms. (as quoted in Rist, 1979)

It is clear from the above passage that the intent of the justices was to help African-American and other disenfranchised and undereducated groups to fit in the present sociopolitical structure. What this “fitting in” meant for schools and in the minds of dominant culture members was not necessarily consistent with what African-Americans envisioned for themselves.

In many communities, African-Americans, regardless of their educational background, were faced with limited occupational choices. Consequently, although school desegregation might provide “equal education,” it could not ensure equal opportunity in the work place or the housing market. Thus the *Brown* decision had to be seen as one with widespread implications for social relations throughout the society.

This broader vision of *Brown* represented the hope of the African-American community. The Supreme Court had explicitly affirmed the rights of African-Americans to have equal access in the public arena. African-Americans interpreted this as an attempt to level the playing field. Not only would African-American children have the opportunity to attend better equipped schools, but African-American teachers and principals would be able to compete fairly for school positions. The college-educated African-American community would be able to break out of the limited occupational options of “teach or preach,” African-American patronage would be welcomed at stores and restaurants, and housing choice would be a question of affordability, not race.

Unfortunately, the Supreme Court’s decision could not be immediately translated into action or acceptance. The shortcoming in *Brown* is that the court proposed an essentially mathematical solution to a sociocultural problem. More specifically, the Supreme Court looked at the sociocultural reality of African-American students—that they were consigned to substandard, ill-equipped schools—and proposed that by physically manipulating the students’ school placement the problems of inequality would be addressed. They made this decision in the face of scant research evidence concerning the impact of segregation and desegregation (Rist, 1979). The response of many desegregated school districts, immediately after *Brown* was handed down, was to act as if it had never occurred. Rist states that “prior to 1964, no systematic data on the implementation of *Brown* were collected, tabulated or analyzed. The general consensus among those who have studied this

period is that fewer than 1% of all black children in the 11 southern states attended desegregated schools" (p. 4).

Little change occurred in public schools immediately following the *Brown* decision. Whites in the South found various ways to resist the decision. This resistance took the form of physical attacks on African-American students, legal delaying tactics, and the founding of over 3,000 private academies (Schofield, 1991). It was not until the enactment of the 1964 Civil Rights Act and the Elementary and Secondary Education Act of 1965 that the federal government achieved the legal leverage it needed to insure that the *de jure* (state-supported dual systems) segregation of the South was changed. By contrast, the *de facto* (after the fact, by virtue of housing patterns) segregation of the North was barely affected by this legislation. The mathematical solution proposed by *Brown* meant that the South would close down its African-American schools and place the jobs of African-American teachers and principals in jeopardy. If one eliminated the African-American schools, then all students would be compelled to attend the only available school system. The movement of bodies would mean African-American students would attend the previously all-White schools.

In the North, the mathematics was not as simple. There was no separate school system to close. Students attended neighborhood schools and the neighborhoods were segregated. In addition to not being able to apply a mathematical solution to a sociocultural problem, the courts could not apply a linear mathematical solution to a complex societal organization. The solution to the North's desegregation problems meant moving bodies across neighborhoods. Not only would African-American students be asked to attend different schools, White students would also have to leave their neighborhoods.

Other pieces of mathematical data the *Brown* decision failed to factor in were the rising African-American birth rates and the increasing immigration rates (Schofield, 1991). The past 20 years have seen a rapid increase in the "browning" of the nation's urban centers. The most elaborate desegregation plans cannot be successfully implemented in cities where White flight and the exercise of private school "choice" have meant that those once labeled minority now constitute the school population's numerical majority.

Schofield's (1991) comprehensive review of the desegregation literature suggests that the failure of studies in this area have been their attention to the "effects of desegregation" while ignoring the more salient questions of "what is going on here" (in desegregated schools) and "what works" (p. 383). More important, Schofield suggests that researchers in this area fail to provide usable insights concerning desegregation's effects because this work tends to be atheoretical. In their eagerness to address social concerns (and to be published) scholars have taken shortcuts to looking at desegregation.

In the subsequent sections, we will discuss further the application of simple mathematical solutions to complex sociocultural problems, take a more in-depth look at the effects of the *Brown* decision, and propose a vision of a desegregated/integrated model of education.

#### THE MATHEMATICAL MODEL METAPHOR AND *BROWN*

The *Brown* case, like most other lawsuits, was formulated in terms of available and authoritative legal doctrine. Yet, this case was different given that equality, a mathematical construct, was reshaped to fit within the legal framework. From *Plessy* to *Brown* to the over 500 pending cases related to these landmark decisions, the ability to transform a mathematical interpretation of equality into a social reality has not been realized.

Crenshaw (1988) provided a potential explanation for the failure of legal remedies to result in equality for Blacks. She argued that there are two distinct rhetorical visions in antidiscrimination law. The first is an expansive view that stresses equality as a result. This interpretation of the law looks to eliminate conditions of Black subordination and uses the power of the courts to eradicate racial injustice. The second perspective is a restrictive view that coexists with the expansive view. This view emphasizes that equality is a process and minimizes the significance of actual outcomes. Crenshaw (1988) noted the following about the restrictive view:

“Wrongdoing,” moreover is seen primarily as isolated actions against individuals rather than as a societal policy against an entire group. Nor does the restrictive view contemplate the courts playing a role in redressing harms from America’s racist past, as opposed to merely policing society to eliminate a narrow set of proscribed discriminatory practices. Moreover, even when injustice is found, efforts to redress it must be balanced against, and limited by, competing interests. . . . The innocence of whites weighs more heavily than do past wrongs committed upon Blacks and benefits that whites derived from these wrongs. In sum, the restrictive view seeks to proscribe only certain kinds of subordinating acts, and then only when other interests are not overly burdened. (p. 1342)

Crenshaw’s constructs of expansive and restrictive visions of equality provide a framework to explore the development of the desegregation model of equality, constructed as a result of *Brown*. Was the *Brown* model of equality expansive, restrictive, or both?

Von Neumann (Gleick, 1987) defined a model as a “mathematical construct which, with the addition of certain verbal interpretations, describes observed phenomena. The justification of such a mathematical construct is solely and precisely that it is expected to work” (p. 273). In science, given



an approximate knowledge of a system's initial condition and an understanding of natural law, the scientist can construct a model that will approximate the behavior of the system (Gleick, 1987). Over the last 142 years, civil rights litigators have been constructing a model of equality in education that equates quality schools for African-Americans with the process of desegregation (Bell, 1987). The evolution of the desegregation model mandated by *Brown*, metaphorically speaking, meets the Von Neumann criteria of a mathematical model.<sup>2</sup>

The cases preceding *Brown* (e.g., *Roberts v. City of Boston*, 1850; *Plessy v. Ferguson*, 1896; *Sweatt v. Painter*, 1950) were iterations of the evolving construct of social equality that led to the desegregation model. Thus these precedents serve as the approximate knowledge of the education system's initial conditions of equality. The actual *Brown* decision represents the verbal interpretation of the desegregation model of equality. The success of the desegregation model of equality was, and continues to be, contingent upon its ability to adapt to a cultural ethos of White self-interest. The impact of White self-interest on the public education system is analogous to the view that natural laws govern the universe, in that both follow predictable patterns. Using this mathematical framework, we will examine the restrictive and/or expansive nature of the *Brown* decision.

#### THE INITIAL CONDITIONS

If the desegregation model of equality is to be understood and classified as restrictive, expansive, or both, science suggests that the scientist, or in this case, educators, must have an approximate knowledge of the system's initial condition. In one of the earliest cases, *Roberts v. City of Boston* (1850), the plaintiff sought to desegregate Boston's public schools to achieve equality in education. Lawyers representing the Black parents in *Roberts* argued that separate schools tended to create a feeling of degradation in Blacks and prejudice in Whites (Bell, 1980a). Thus 104 years before *Brown*, the transitive property of social equality equating desegregation with quality schools and increased opportunities in the market place was formulated.<sup>3</sup> The *Roberts* suit was eventually rejected by the Supreme Court of Massachusetts, but Black leaders lobbied the legislature for a law against segregated schools and succeeded in acquiring a law prohibiting segregation.

The passage and implementation of this law in Massachusetts should be viewed as a pilot study of the effectiveness of the mathematical model of desegregation. In the case of Boston's education system, the model resulted in a loss of Black leaders and teachers, a loss of self-control, a loss of identity, and worst of all, the model impeded the intellectual development of Black

children (Hall & Henderson, 1984). Even financial support for textbooks provided to Black children during segregation was ended.

The major gains Blacks thought were obtainable with the desegregation model were the very ones lost as a result of not accounting for an important law of the system, White self-interest. School officials argued White parents would not send their children to all-Black schools, nor would they allow Blacks to attend their schools. The social law of White self-interest resulted in Boston schools being clearly identifiable by race.

The next major case related to school equality was *Plessy v. Ferguson*. In *Plessy*, the opinion of the court was written in a manner similar to a mathematical property of equality. The court argued:

If the civil and political rights of both races be equal, one cannot be inferior to the other, civilly or politically. If one race be inferior to the other socially, the constitution of the United States cannot put them upon the same plane. (*Plessy v. Ferguson*, 1896)

Because equality is a mathematical construct, it must conform to the logic of the discipline. From a mathematical perspective, the court's argument has two errors. First, their argument implied that Blacks and Whites were equally protected under the 14th Amendment. Earlier in this essay, we argued that Jefferson's view of Blacks helped lay the foundation of segregation and was widely accepted as a social norm in America. Assuming benevolence from a nation of people whose cultural ethos conformed to a racial ideology of White self-interest weakens the assumption that a Black citizen was equally protected under the law.

The court's argument of equal civil and political rights was completely negated by the fact that Blacks were denied political equality by restrictive voting laws. Mathematically speaking, if two groups are considered politically equal, then each group must have exactly the same rights under the law.

A second error in the court's mathematical argument was its failure to define, in measurable terms, the meaning of equal in "separate but equal." Instead, the court used the following reasonableness test:

[We] cannot say that a law which authorizes or even requires the separation of the two races in public conveyances is unreasonable or more obnoxious to the 14th Amendment than the acts of Congress requiring separate schools for colored children in the District of Columbia. (*Plessy v. Ferguson*, 1896)

In strictly mathematical terms, equality was not addressed in *Plessy*. This important iteration of the desegregation model was principled on false mathematical assumptions. Equal was defined as "reasonable" and this

definition was subject to the interpretation of the dominant group. Like the *Roberts* case, White self-interest restricted the transformation of mathematical equality into a social reality. As a mathematical construct, the *Plessy* model is best characterized as an empty set. *Plessy* did not provide a restrictive or expansive view of school equality, because the court's arguments were premised on false mathematical assumptions that rendered the decision meaningless with respect to social equality.

In later cases, the courts began to construct social meaning to the empty conditions of equality referred to in *Plessy* (e.g., *Missouri ex. rel Gaines v. Canada*, 1938; *McLaurin v. Oklahoma State Regents for Higher Education*, 1950; & *Sweatt v. Painter*, 1950). In terms of the desegregation model, all of these cases were iterations of the social construction of equal protection in education that led to *Brown*. The construction of equality in education via these cases was analogous to an indirect proof in mathematics.<sup>4</sup>

The legal construction of equality in education always began with the assumption that school inequality did not exist and that it was the plaintiff's responsibility to produce contradictory evidence. Using this method, the court constructed a model of equality by validating educational inequality. There was, and still is, a limitation with using an indirect mathematical proof to achieve equality in a social context. It is a very static process, making it nearly impossible to capture and change dynamic social realities. For instance, in *Sweatt v. Painter*, the court noted numerous inequalities such as reputation of faculty, experience of administrators, the influence of alumni, and community standing. By defining significant differences between Black and White schools, the court constructed the meaning of educational equality. Each new construction by the courts represented the current model of equality in education. Yet, each newly constructed model did not guarantee equality in education for all students. At any given point in time, a school system could initiate or have an ongoing policy that resulted in what could be perceived by a citizen as an impediment to equality in education for African-American students. Under our system, the courts assume that inequality does not exist, and thus the burden of providing contradictory evidence or, in essence, the construction of a new model of equality rests with the citizen who is compelled to challenge the school system's policy. The use of an indirect mathematical proof to both legally and socially construct equality was, and continues to be, a time-consuming and restrictive process. Further, the indirect method is not an expansive process that initiates the construction of equality in education or anticipates policies that promote inequalities and prevent their implementation. Nor has this method framed equality as a result. Rather, equality is viewed as a process.

The *Brown* case was consistent with past litigation in the area of education, in that the litigators for the plaintiff used an indirect mathematics proof to construct the meaning of equality in education for African-Americans. At the time of *Brown*, the law assumed separate schools were equal. Contradictory evidence provided by social scientists led the court to conclude that the segregation of races in public schools had a detrimental effect on African-American children. Thus the Supreme Court approved the next version of equality in public education that equated school desegregation with equal protection under the law. The desegregation model has been used to transform the relations between Blacks and Whites in a variety of social contexts. With respect to public education, the model established in *Brown* has failed to deliver the desired result of educational equality for African-Americans.

The difficulties encountered in the judicial and administrative implementation of *Brown* can be attributed to a mathematical flaw. According to Von Neumann (Gleick, 1987) a mathematical model must have "certain verbal interpretations" that describe the phenomenon to be observed. In the case of *Brown*, the phenomenon to be observed was, in theory, an integrated/desegregated public system of education. Yet, in *Brown v. Board of Education* (1955, hereafter *Brown II*) the court failed to give a verbal interpretation of the phenomena of equality to be observed. Instead, it offered the following:

School authorities have the primary responsibility for elucidating, assessing, and solving these problems; courts will have to consider whether the action of school authorities constitutes good faith implementation of the governing constitutional principles. Because of their proximity to local conditions and the possible need for further hearings, the courts which originally heard these cases can best perform this judicial appraisal. (*Brown v. Board of Education*, 1955)

*Brown II* did not provide a verbal interpretation of equality for the lower courts to use as a guide to transform the segregated system of education to an integrated reality. It only described the magnitude of the task. Failure to describe the phenomenon to be observed has resulted in many school districts constructing models of desegregation that have not met the needs of African-American children. For example, the Miami and Houston school districts counted Latinos as White and bused low-income African-American students into low-income Latino schools and vice versa (Orfield, 1988). This type of practice may have been avoided if the Supreme Court had articulated a clearer vision for the model. Further, by delegating the responsibility of creating the vision of equality to the lower courts, the *Brown* model was more susceptible to the law of White self-interest.

According to Gewirtz (1983), the "with all deliberate speed" formula of *Brown II* was an attempt by the court to accommodate White opposition rather than to facilitate administrative adjustments. The combination of a lack of an implementation strategy, White self-interest, and the deliberate speed formula provided school systems the time and freedom to construct resistance strategies. As previously mentioned, resistance to the *Brown* model has taken on many forms that have hampered its implementation: violence, White flight from public education, boycotts, slow-down tactics by officials obliged by law to desegregate, and new versions of segregation.

Further complicating the implementation of the desegregation model today are the demographic realities of America's urban centers. Of the 20 largest public school systems in American, 12 have over 70% non-White enrollments (National Center for Education Statistics, 1990). Among these cities, Detroit, Chicago, New York, and Philadelphia have neither a comprehensive nor voluntary desegregation program within their largely non-White school systems for the exchange of students with neighboring suburban school districts (Orfield, 1988). The lack of a city-suburban exchange mechanism makes it impossible to desegregate city school systems with majority African-American and Latino-American student populations. The *Brown II* judicial and implementation strategy did not factor the changing demographic conditions into the desegregation model. We can only speculate based on previous patterns that White self-interest would be a barrier to city-suburban student exchanges.

#### THE NEED FOR AN EXPANSIVE MODEL

Give me that which I want, and ye shall have this that you want . . . it is in this manner that we obtain from one another the far greater part of those good offices which we stand in need of. It is not from the benevolence of the butcher, the brewer, or the baker that we expect our dinner, but from regard to their own self-interest. (Smith, 1937, p. 14)

From Smith's writings on free market economics to more recent theories of supply-side economics, the unbridled expression of individual self-interest has been characterized as the central ingredient required to maximize the welfare of society (Raboy, 1982). Bell (1980b) suggested that remedies to promote racial equality in education will only be considered when these remedies converge with the interests of Whites.

The fourteenth amendment, standing alone, will not authorize a judicial remedy providing effective racial equality for blacks where the remedy sought threatens the superior social status of middle- and upper-class whites. (Bell, 1980b, p. 95)

The law of White self-interest has affected the way the desegregation model of educational equality has been defined and socially constructed via the legal system. From *Roberts* to *Plessy* to *Brown*, this social law has served as an agent to restrict the implementation of the desegregation model of equality. Further accelerating the restrictive power of White self-interest is the lack of a vision for implementing the *Brown* model in a world of ever-changing demographics and other social conditions. The vision for the model must include, yet move beyond, the restrictive process of physical desegregation and focus on an expansive view that incorporates other strategies to achieve equal educational outcomes for all groups.

#### AN EXPANSIVE VISION OF A DESEGREGATED/INTEGRATED SCHOOL

With the passage of *Brown*, many African-Americans and other people of color equated a "good" education with their children attending well-equipped, well-financed schools with White children. This good education, they believed, would be the result of equal educational opportunity for their children and all other children. Equal educational opportunity would mean, Black boys and girls would be treated with the same dignity and respect as White boys and girls. This equal treatment would come about because they would share the same educational space, take the same educational classes, and use the same educational materials. However, this model lacked vision, and African-American people soon realized that the educational goals for their children were not being achieved by just experiencing schooling in the same room with White students, often after a long and frightening bus ride. What was needed was a vision of education that challenged the fundamental structure of schools that reproduced the same inequitable social hierarchies that existed in society.

A decade later, with a growing social consciousness that was further enhanced with the passage of the Civil Rights Act of 1965, African-American people also wanted to see their boys and girls and other students of color, as well as White children, experience a curriculum that celebrated their culture, accurately told of their ethnic group's deeds and contributions to society, challenged the status quo, and promoted their personal and ethnic group's membership by accepting and affirming them as full members in American society.

This good education for many African-Americans and other people of color thus far has not become a reality. A recent report, prepared by the directors of the 10 federally funded Desegregation Assistance Centers (DACs), explains how the idea of a good education held by African-

Americans and other people of color has been shattered, in what the report describes as three failed generations of desegregation efforts since the Brown decision (Simon-McWilliams, 1989; Bates, 1990).

The first generation, the effort to stop and eliminate physical desegregation, has seen some progress in urban and suburban areas. It is not unusual to see students of color and White students in school together. This is especially true in magnet schools, or in school areas where the Whites are too poor to escape from the city. However, many urban communities are increasingly becoming predominantly Black, Latino, and Southeast Asian, with an economic base at or below the poverty level and an infrastructure that is crumbling. Furthermore, with the recent shift in demographics that includes changing immigration patterns and differential fertility rates among various racial groups, school desegregation with students of color and White students is becoming increasingly difficult (Hodgkinson, 1986).

The second generation, the attempt to eliminate inequities within schools rather than between schools, also has experienced slow progress. In mixed-race schools, students of color are often placed on lower academic tracks than are White students (see, e.g., Oakes, 1985), receive more suspensions from school, and are placed in special (remedial or compensatory) classrooms (Irvine, 1990). Additionally, the school's curriculum and practices are often designed to meet the needs, interest, and lifestyle of the White students. This is especially so in suburban schools, where students of color are bused out each day to attend classes.

The third generation, the achievement of equal learning opportunities and outcomes for all students is producing mixed results. Whereas, more students of color are completing high school and going on to college, the number of students of color not completing their education and/or being pushed out of school is alarmingly high (Hahn, 1987).

Given the work that still remains to be done in order to complete the desegregation of schools, have major improvement in the integration of schools, and deal with the educational challenges brought on with the changing racial demographics, is there a realistic vision of school success and good education that African-American and other people of color should hold?

We argue that there is such a vision and this vision is grounded in the country's rhetoric of democratic principles of equality, equity, and respect and affirmation of ethnic and cultural differences. These principles have not been completely realized by people of color. But, before we discuss the vision, it is important that we, at least briefly, acknowledge that an educational reform effort is underway. And, this reform effort is claiming educational excellence and equity for all students.



## THE RECENT PROMISE OF EQUAL EDUCATION

The publication of *A Nation At Risk* (National Commission on Excellence in Education) in 1983 renewed cries in the nation, and especially within the field of education, to provide an equal education for all students. The publication claimed it was founded on twin goals of “excellence and equity.” The report said:

The twin goals of equity and high-quality (excellence) schooling have profound and practical meaning for our economy and society, and we cannot permit one to yield to the other in principle or in practice. (p. 13)

However, the educational literature and educational efforts since that publication have most often focused on increasing academic excellence in school by: (a) adding the new “basics,” which has come to mean more reading, science, math, computer instruction, and technology in the curriculum; (b) increasing the knowledge and competence of those who teach by raising the requirements and standards for who can enter teaching, and providing teachers with greater direction about how to teach; and, important to this article, (c) merely declaring, but not making the effort to see to it, that educational equity exists for all students.

To this day, our review of the educational literature, including the educational reform reports and proposals for educational reform, does not reveal any substantive discussion of a vision of what desegregated/integrated schools would be like. The curriculum, instruction, and other school practices and how the school would meet the needs and interests of its multiethnic, multiracial, language-diverse population have not been articulated.

Can true educational reform, that includes educational equity and excellence for all students, occur without such a vision? We believe not, because without it, educators will not have a plan to prepare all America’s children for the present and the future.

## AN EXPANSIVE VISION

As we posited above, the notion of equality can be thought of as restrictive or expansive. The restrictive view concerns itself with process, but not equal educational outcomes. We endorse the expansive view that requires attention to student outcomes as well as numerical equality. Further, we interpret expansive to include changes in curriculum, instruction, student interaction, school climate, and parent involvement.

Our vision of schools is that of integrated, multicultural, multilinguistic environs, where the disabled have full school citizenship and students from



a variety of homes and living arrangements are welcomed by an understanding and sensitive student body and faculty. They are schools in which students are academically diverse and achievement is not a function of race, class, or gender. The vital elements of the vision reside within the school's guiding philosophy and manifest in its curriculum, instructional practices, parent/community involvement, and other aspects of the school environment.

#### GUIDING PHILOSOPHY

Earlier we noted that *Plessy* was rendered at a time (1896) when the nation's philosophical disposition and behavior toward African-Americans was less than humane. For many Whites, the three-fifths clause in the U.S. States Constitution was alive and well and only being articulated in other forms. For example, Justice Brown argued in his approving of this "separate but equal doctrine":

The object of the [Fourteenth] Amendment was undoubtedly to enforce the absolute equality of the two races before the law, but in the nature of things it could not have been intended to abolish distinction based upon color, or to enforce social, as distinguished from political equality, or a commingling of the two races upon terms unsatisfactory to either. (*Plessy v. Ferguson*, 1896)

Earlier, we also pointed out that *Brown* was handed down at a time when many in this country believed it was appropriate to move Blacks and Whites from being separate and unequal, to being physically together with Black acceptance of White norms and values. Integration and desegregation were both used as the rally call, but desegregation was the true password to be acted upon "with all deliberate speed." The philosophy of assimilation competed with the philosophy of desegregation to give direction to school policy and procedures.

Presently, we are proceeding at the same deliberate speed. Thus it would be naive and inaccurate to argue that the nation has adopted and acts upon a philosophy of pluralism, equality, and equity for all its citizens. For much reeducation of the citizenry remains to eliminate the behaviors and attitudes that brought forth the killing of Yusef Hawkins, the brutal beating of Rodney King, the belief that most welfare recipients are Black women, and the belief that the Black family is bankrupt. Nevertheless, we believe it is the role of the school in society to provide an education that promotes cultural pluralism and social and structural equality within all American institutions, especially the houses of government and the judiciary. Schools must advocate a "no-

model-American philosophy,” and they must correct the “color-blind” attitude when it serves as an excuse for not meeting the needs and interests of students of color.

#### STUDENT DIVERSITY

Schools need to be racially, economically, culturally, and linguistically integrated as opposed to being desegregated. Physical integration of the student population across all areas of schools’ practices is important to a real quality, multicultural education. For example, in some so-called desegregated high schools, students are tracked in both curriculum and extracurriculum classes and activities. The French club, swimming team, chess club, cheering squad, and tennis team are often the province of the White students, whereas basketball and football are the province of students of color, particularly African-Americans. Separation, voluntary or forced, can teach racial stereotypes, promote one school activity as being more culturally elite than another, and create racial and class barriers and tensions between students.

Also, along with the curriculum (e.g. textbooks, artifacts, field trips) from which students learn, they must see themselves and their classmates as vital and valuable parts of the curriculum. Students learning from each other is important in helping them to critically understand and analyze race, class, and gender issues. It further assists them as they critique each other’s ideas and beliefs about the school’s curriculum as well as each other’s ideas and beliefs about societal issues.

The importance and value of interactive student diversity is supported by Grant and Sleeter (1986) in an ethnographic study of an integrated mainstreamed junior high school. In this study, they reported that the student population truly valued being friends in and out of school. The students used such phrases as “multicultural friendships are fun,” and “I don’t see Jim as handicapped just because he is in a wheelchair. He goes to parties and dances with his wheel chair, he’s not handicapped, he just can’t walk.” Statements such as these suggest that students are capable of understanding and transcending differences when they participate in education that is multicultural (see Sleeter & Grant, 1987).

#### CURRICULUM

Several multicultural education scholars (see, for example, Gay, 1988; Ladson-Billings, 1991) have written extensively about the nature of curriculum in integrated schools. Space limitations prevent a full discussion here. How-

ever, it is important to highlight that the history and contributions of all Americans will be accurately written and infused throughout the entire K-12 curriculum. More of the curriculum will be organized around social issues that include race, class, gender, and disability as perspectives for analysis. Students' life histories and ethnic communities will often serve as the starting point to teach critical thinking about issues critical to their life circumstances.

#### INSTRUCTION

Instruction will acknowledge that all students have no one best way of learning. It will be designed to enhance all students' self-concept and respect for peers. Instruction will be varied and involve students actively in determining how best to learn about an issue or resolve a problem. It will provide experiences, both for cooperative groups and for individual learning in order for students to learn how to create positive social change.

#### PARENT-COMMUNITY INVOLVEMENT

*Brown*, as well as many of the desegregation cases before it and many of the desegregation cases after it, was heard by the judicial system because African-American parents and community members were fed-up with the quality of education their children were receiving in public schools. Consequently, African-American parents were active participants in demanding that the judicial system use its constitutional powers to see to it that their children have an equal opportunity to receive a quality education. The development and continuous fostering of positive parent/community-school relations will be fundamental to the philosophy and practice of the expansive model of education. Parent-school interactions will be: (a) interactive at the personal level of teacher-parent-student involvement, (b) interactive at the school building or administrative level, and (c) interactive at the school system or structural level.

#### EPILOGUE

We would be among the first to admit the significance and value of *Brown* to all of society, especially people of color. However, *Brown* and all deliberate speed have not provided the quality education for students of color that was expected and hoped for. This model of educational equality, coupled with White self-interest, has not produced (and cannot produce) the expansive vision of equality that will lead to equal educational outcomes regardless of physical placement of students. This expansive vision helps education to

fulfill the promise of developing an active citizenry, capable of fully functioning in a democratic and multicultural society.

## NOTES

1. According to Putnam, Lampert, and Peterson (1990) mathematizing is an activity that "assumes a certain view of the social and physical world, which asserts that the important elements of situations can be represented by numbers and relationships among numbers. In Western society, this view is somewhat of a given, certainly among particular segments of the population who use mathematics to formulate and solve problems and others who consume their work" (p. 98). For example, in *Johnson v. Chicago Board of Education* (1979) the court sanctioned a school lottery system principled on racial classification. That is, when the percentage of non-White children reached 60% in integrated neighborhood schools, the number of children chosen by race exceeding that percentage were selected by lottery for assignment to other schools. The figure 60% represented the important element of this situation. The school board argued that minority enrollments beyond this figure would catalyze White flight. This case illustrates one way mathematizing can be used in the legal system.

2. Williams (1991) contends that theoretical legal understanding is characterized, in Anglo-American jurisprudence, by at least three sets of principles or rhetoric: (a) the hypostatization of exclusive categories and definitional polarities, the creation of clear taxonomies that purport to simplify life in the face of social complexities-rights/needs, moral/immoral, public/private, White/Black; (b) The existence of transcendent, acontextual, universal legal truths or procedure; and (c) the existence of "objective" voices by which those transcendent, universal truths find entry into legal discourse. These voices include judges, lawyers, logicians, and practitioners of empirical methodologies (see e.g., *Johnson v. Chicago Board of Education*, 1979).

Similarly, mathematics has been viewed as a paradigm of objective, transcendent, universal truths (Ernest, 1991). In this article, the authors use mathematics, and more specifically mathematizing, metaphorically to illustrate the "limits of rationality" (see e.g., Wheeler, 1988) of the "legal truths" that led to *Brown*. Simon (1981) provides additional insight into the limits of rationality "If natural phenomena have an air of 'necessity' about them in their subservience to natural law, artificial phenomena [e.g., legal truths or procedure] have an air of 'contingency' in their malleability by environment" (pp. ix-x). We do not suggest that the legal system is derived or built on mathematical principles. Instead, we contend that mathematics and the legal system share common characteristics of Western philosophy that allow for a metaphorical analysis.

3. The transitive property of equality states that, if  $a = b$  and  $b = c$ , then  $a = c$ . In *Roberts*, the plaintiff's logic was principled on the following: if desegregation implies quality schools and quality schools implies increased opportunities, then desegregation implies increased opportunities.

4. According to Downing (1987), "The method of indirect proof begins by assuming that a theorem is false, and then proceeds to show that a contradiction results. In that case, the theorem must be true" (p. 100).

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